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memo

SUBJECT/PROJECT	Othello Park Lighting Improvements	DATE	January 10, 2011
PROJECT NO.	2010-0414.01		
TO	Maggi Johnson	@	Johnson Southerland
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DISTRIBUTION	Rick Nishi / Project Advisory Team (PAT)		

APPLIES TO ☐Mechanical ☑Electrical ☐Plumbing ☐Building Technologies ☐Commissioning
☐Energy Consulting ☐Fire/Life Safety ☑Lighting Design ☐Sustainable Design

COMMENTS

From our last meeting, we discussed the desired level of lighting for the park, by area:

- In the meadow, people should be able to play games, but not at a professional sports level (Ron)
- Important for light standards to be low so they don't interfere with trees (Marianne)
- Important to be able to see people in the park before entering it (Ron & Nancy)
- The areas that are presently illuminated are nice—the park looks beautiful, can see if people are there (Ron & Nancy) The view looking NW from 45th is a nice example—it's nice the way it is (Ron)
- Glare from existing lamps doesn't bother, it's kind of soft, not too bright like the lights at Cal Anderson Park, that have dark spaces between (Nancy)
- For safety and security, what is important is the level, uniformity, and quality of light, and the coverage, not the quantity of poles or fixtures. The important thing about the silhouetting idea is to be able to see if there are people in the park before entering it, though it doesn't have to be absolute silhouette, would be ok to be able to see colors and identify who it is (Nancy)

Potential Energy Conservation and energy code issues

The current park lighting includes:		
(4) 250 Watt t post-top area lights	4 x 310 Watts	1,240 Watts
(9) 400 Watt perimeter flood lights on S.C.L. poles	9 x 460 Watts	4,140 Watts
(8) 400 Watt interior flood lights on wood utility-type poles	8 x 460 Watts	3,680 Watts
Total Current Lighting Power:		9,060 Watts

2009 Seattle Energy Code limits for lighting power are:
The area of the park is approximately 351,000 SF.

500 Watts – Base Site Allowance	500 Watts lighting power.
0.70 Watts per Linear Foot, walkways < 10' wide: est. 5,500 L.F x 0.70 =	3,850 Watts lighting power.
0.04 W/SF for open areas, landscaping: 329,000 SF	13,160 Watts lighting power.
TOTAL LIGHTING POWER BUDGET 2009 SEC:	**17,510 Watts Lighting Power**

Proposed Initial Full-Park Illumination:

Pathway – 'SP1' poles/luminaires: (28) 100 Watt MH	28 x 130 Watts	3,640 Watts
Area Lighting – 'SA1' play/sport courts (8) 400 Watt MH	8 x 460 Watts	(Exempt)
Area Lighting – 'SA2' meadow luminaires (12) 400 Watt MH	12 x 460 Watts	5,520 Watts
Area/Flood Lighting – 'SA3' meadow/Stage (2) 400 Watt MH	2 x 460 Watts	920 Watts
Total Proposed Full-Park Lighting Power:		**13,760 Watts**

Review potential plan changes proposed for design development (DD) plans, based on public meetings and first PAT meeting – lighting levels and distribution.

- Lighting Type

  Solving 'problems' with preconceived notions can lead to missed opportunities, or can cause us to miss the mark with respect to our objectives.

  IES RP33-99: Lighting for Exterior Environments:
  Recommended minimum average light levels for walkways distant from lighted roadways:
  0.5 FC Horizontal 0.5 FC Vertical

  To achieve our project objectives, we don't have to eliminate the flood-lighting technique; In fact, we can reduce the glare produced by the existing lighting by reducing the angles of the flood light heads, and pick-up the lost 'reach' with new lighting to fill in the gaps in uniformity. For poles > 15 feet high, though, the new Seattle energy code will require full cut-off fixtures. (Flood lights won't comply)

  Color identification will be enhanced by replacing the existing High Pressure Sodium (HPS) lighting with Metal Halide (MH). The Metal Halide appears "whiter" but more importantly, it more accurately renders colors of clothing and the like. The MH will have a slightly shorter lamp life than the current HPS lamps.

- Lighting Levels
  We are achieving pretty acceptable lighting levels with the present lighting; What we're looking to achieve with this project is to enhance the uniformity and coverage of the lighting throughout the park.

- Lighting Locations and distribution of light

  The preliminary lighting layout plan that I brought to the meeting proposes a conceptual lighting layout for achieving enhanced uniformity and coverage beyond the extents of the pathways and the central meadow, and includes the sport court areas.

  Cost savings can be achieved if it proves feasible to retain the exiting lighting poles, with some re-aiming of the flood lighting, and changing to MH light.